



32D04SE0288 2.2665 HEARST

2.2665

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APR 27 1978

PROJECTS UNIT

REPORT ON MAGNETOMETER  
AND ELECTROMAGNETIC SURVEYS  
Hearst Township, Ontario

Introduction

Linecutting, followed by Magnetometer VLF-EM, CEM and one line of Horizontal Shortback surveys were carried out on three claims in Hearst Township during July, 1976. Nine claims were surveyed by VLF-EM during late February and early March 1978. The results are shown on plans in the back pocket.

Location, Access and Ownership

The property is located in Hearst Township south and west of the deep bay which lies south-west of island CC in Larder Lake.

The claims are numbered L407269, L407273, L407278, L446630, L446633, L446634 and L446636 to 446641 inclusive. They are recorded in the name of Colex Explorations Inc.

Previous Exploration

A number of pits and trenches can be found on the property. Nothing is known of when this work was carried out or of any results obtained.

## Geology

The area is mapped<sup>1</sup> as Temiskaming sediments cut by Algoman felsic to basic intrusives. There are volcanics and one large diabase dyke mapped in the south part of the claims. Small areas of ultramafic volcanic? rocks were noted in shoreline outcrops. These ultramafic rocks may be more widespread than current mapping would indicate.

## Survey Procedure

On the first three claims short baselines were run approximately normal to the axis of conductors indicated by airborne survey work. Cross lines were then run and flagged with ribbon across the conductors. The lines were surveyed with VLF-EM using the Balboa Panama (24.0 KHz) station on claim L407278 and the Cutler Maine (17.8 KHz) station on claims L407273 and L407269. These three claims were also surveyed with a Crone CEM vertical loop instrument using the fixed transmitter method at 1,830 Hz and 390 Hz frequencies. One line was run on claim L407278 using the Horizontal Shootback method. Readings were taken at 50 foot intervals.

Two lines were run with Sharpe MF-1 magnetometer on claim L407278. The looping method was used for control of diurnal variation. Readings were taken at 50 foot intervals.

On the remaining nine claims a VLF-EM survey was run over lines at 400 foot intervals from a baseline at N45°E. The survey was run using the Annapolis, Maryland (21.4 KHz)

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1) O.D.M. Map No. 1947-1

station. Readings were taken at 100 foot intervals using the procedure outlined in Appendix I.

### Results and Conclusions

#### Magnetometer

The magnetics on claim L407278 are relatively flat. There is no correlation with the electromagnetic anomalies.

#### Electromagnetics

On claim L407278 the airborne electromagnetic conductors were located on the ground. They are unexplained but have no magnetic correlation. Graphite is suspected.

On claims L407273 and L407269 the airborne conductors were located on the ground. The most northerly is explained as graphite. The southerly conductor is probably also graphite.

On the remaining nine claims the VLF-EM survey indicates three north-south trending anomalies. Further checking of these anomalies will be carried out when the snow is off the ground. They may be continuations of the probable graphite conductors indicated on the three claims to the north.

Respectfully submitted,

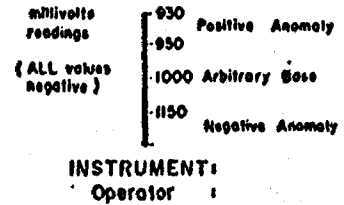
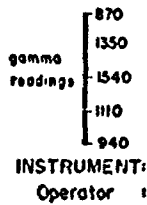


R. A. MacGregor, P. Eng.

April 24th, 1978

MAGNETOMETER SURVEY (MAG.)

SELF-POTENTIAL SURVEY (S.P.)

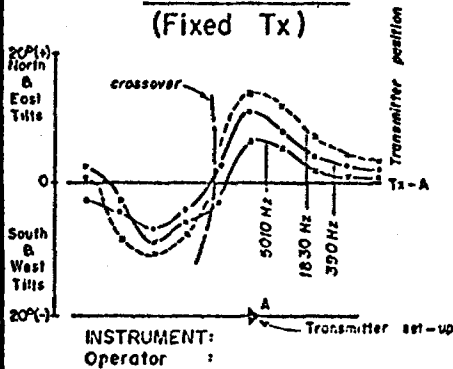


ELECTROMAGNETIC SURVEY

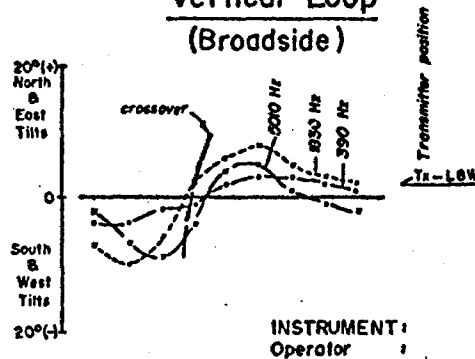
DIP ANGLE METHODS

(Tilt angles defined by dip of coil plane)

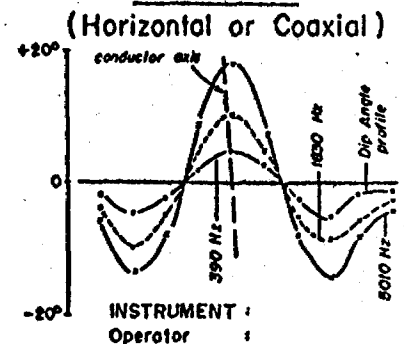
Vertical Loop (Fixed Tx)



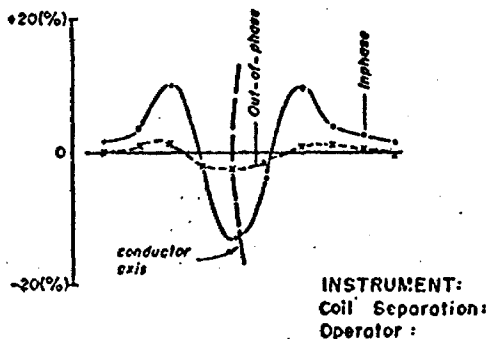
Vertical Loop (Broadside)



Shootback (Horizontal or Coaxial)

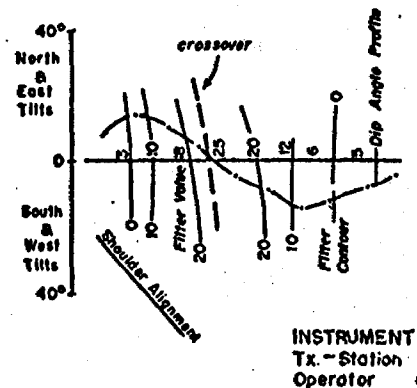


HORIZONTAL LOOP E.M.



V.L.F.- E.M.

(Tilt angles defined by dip of coil axis)



Note: All profiles striking between 135° and 225° (inclusive) are viewed north - others are viewed west.

**STANDARD LEGEND**  
for  
**GEOPHYSICAL SURVEYS**  
by  
**GEOPHYSICAL ENGINEERING LTD.**

Revised: Jan. 5, 1976

Dec. 4, 1975

D.C. Fraser

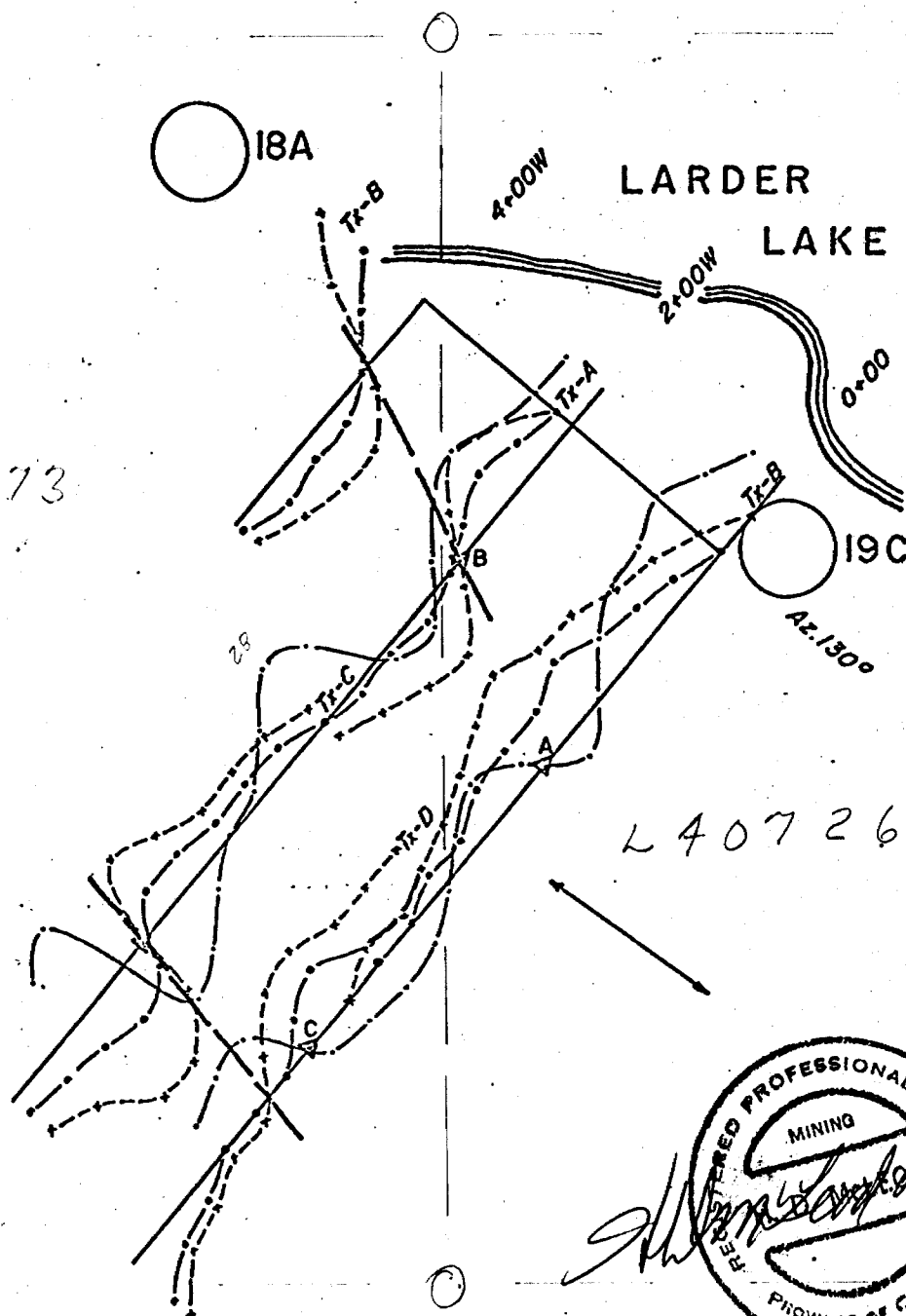
2.2665



18A

LARDER LAKE

L  
4.07273



19D

L 407269



METRES 0 50 100  
FEET 0 200'

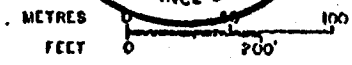
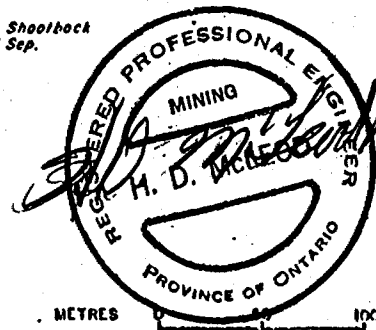
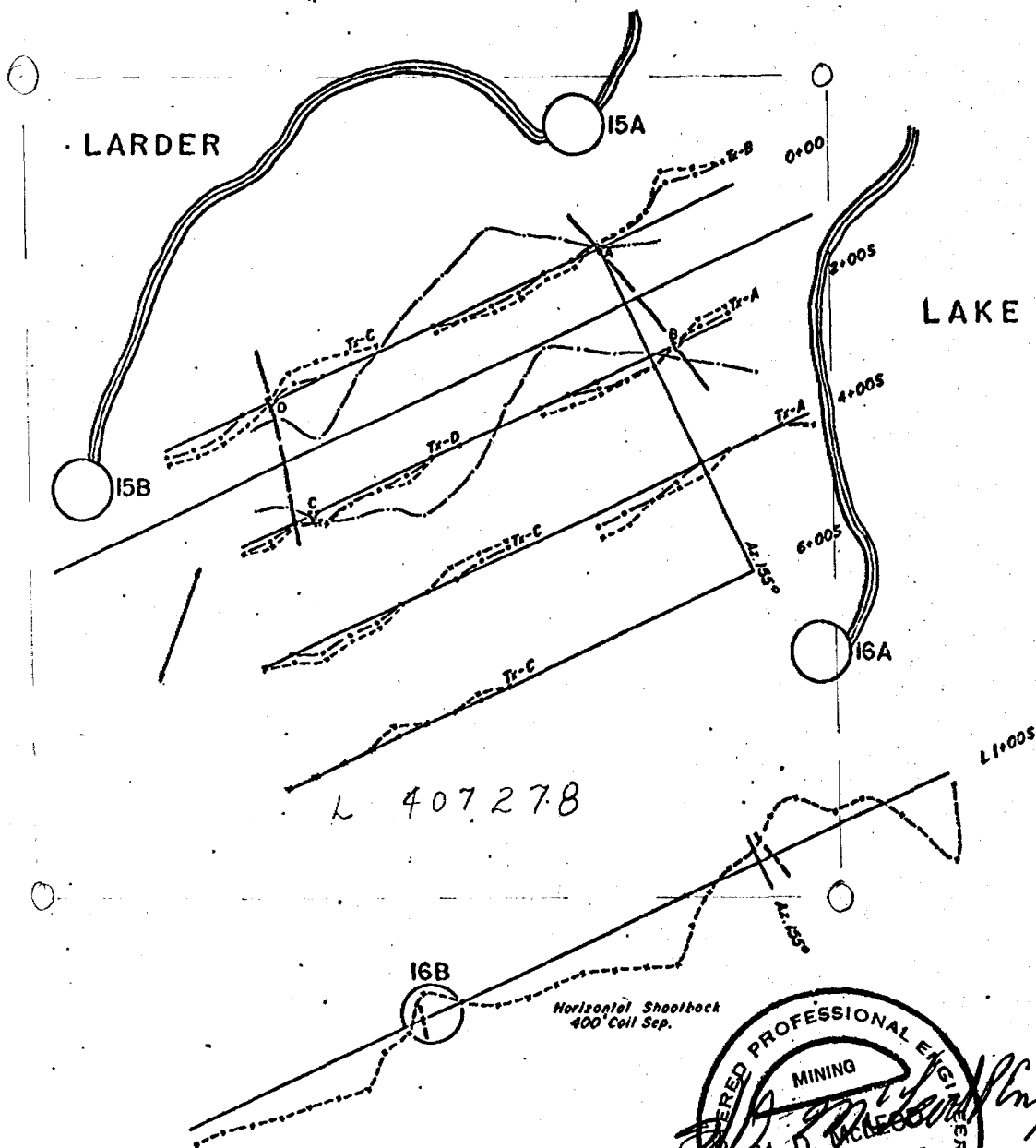
INSTRUMENT : CRONE V.L.F. UNIT.  
                  CRONE C.E.M. UNIT.  
OPERATOR : J. GRANT, J. PORRITT.  
Tx-Station : CUTLER MAINE

DIGHEM SYNDICATE  
AREA RR - ANOMALY 18A-19C.

E.M. SURVEY

DATE DEC. 1976.      JOB 984

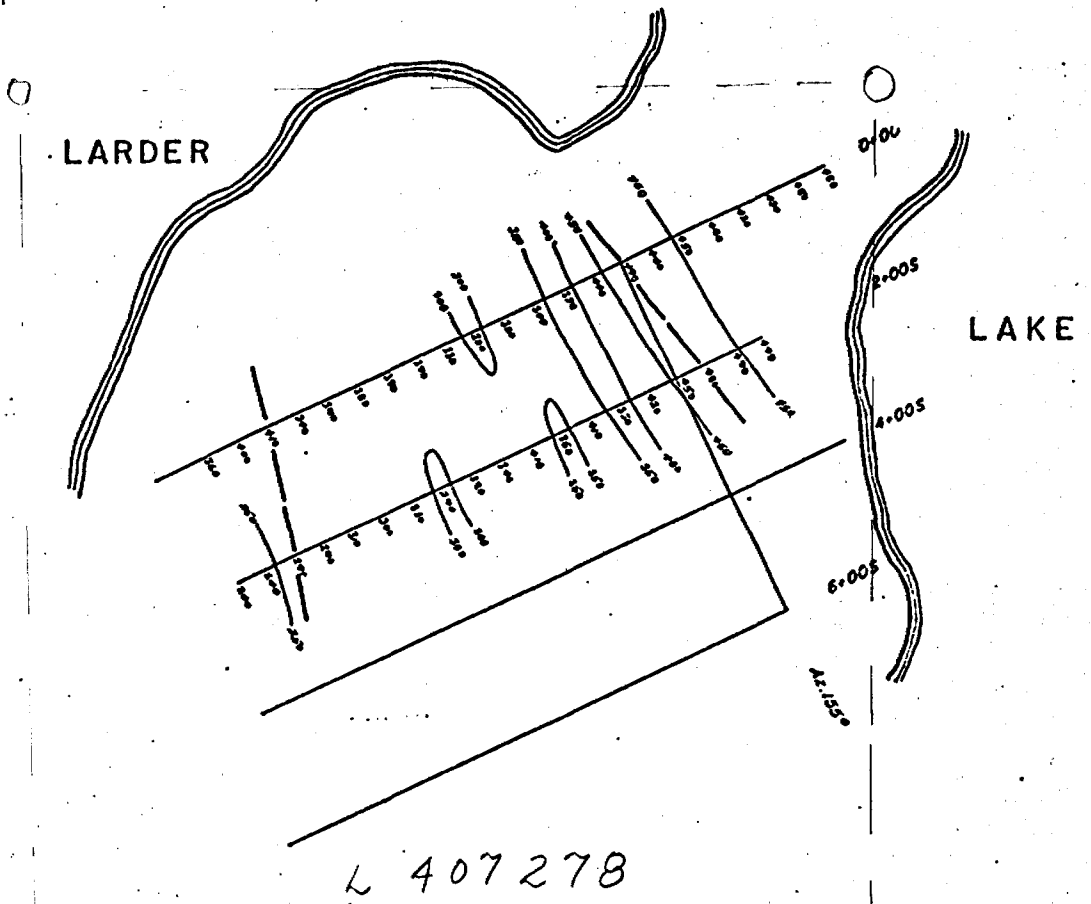
2.2665



INSTRUMENT : GROME VLF UNIT  
 CHINE CE M UNIT  
 OPERATOR : J Grant, J Parrill  
 Tx-Station : Bolton Funama

2.2665

DIGHEM SYNDICATE  
 AREA RR - ANOMALY 14A; 15A  
 E.M. SURVEY  
 DATE DEC. 1976. JOB 984



INSTRUMENT : FLUXGATE MF-1 MAG  
 OPERATOR : J GRANT

DIGHEM SYNDICATE  
 AREA RR - ANOMALY 14A; 15A

MAG. SURVEY

DATE DEC. 1976. JON 904

2.2665



GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX  
FACTS SHOWN HERE NEED NOT BE  
TECHNICAL REPORT MUST CONTAIN INTER



32004SE0288 2.2665 HEARST

900

Type of Survey(s) Magnetometer, Electromagnetic

Township or Area Hearst Twp.

Claim Holder(s) Colex Explorations Inc.

Survey Company R.A. MacGregor, Geophysical Engineering

Author of Report R. A. MacGregor & Surveys

Address of Author 134 Palace Drive, Sault Ste. Marie

Covering Dates of Survey July 1976, Feb.-April 1978.  
(linecutting to office)

Total Miles of Line Cut 1.6

MINING CLAIMS TRAVERSED	
List numerically	
EM	MAG
<u>2/3</u>	<u>I.407269</u> N.C.
<u>2/3</u>	(prefix) <u>I.407273</u> N.C. (number)
<u>2/3</u>	<u>I.407278</u> <u>2/3</u>
	<u>I.446630</u>
	<u>I.446633</u>
	<u>I.446634</u>
	<u>I.446636</u>
	<u>I.446637</u>
	<u>I.446638</u>
	<u>I.446639</u>
	<u>I.446640</u>
	<u>I.446641</u>
TOTAL CLAIMS <u>12</u>	

SPECIAL PROVISIONS CREDITS REQUESTED	DAYS per claim
Geophysical	
-Electromagnetic	<u>20+20</u>
-Magnetometer	<u>40</u>
-Radiometric	
-Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: April 24th/78 SIGNATURE: \_\_\_\_\_  
Author of Report or Agent

L.D.

Res. Geol. \_\_\_\_\_ Qualifications 2,1102 + on

Previous Surveys this file

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

If space insufficient, attach list



GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

VLF-462

Number of Stations Mag-41; CEM-147; VLF-EM-462 Number of Readings CEM-218; Mag-41

Station interval 50' and 100' Line spacing 200 and 400

Profile scale 1"=40'

Contour interval \_\_\_\_\_

MAGNETIC

Instrument Sharpe MF-1

Accuracy - Scale constant 5 gammas on lowest scale

Diurnal correction method Corrected in time along a loop from base station

Base Station check-in interval (hours) 2 hours or less

Base Station location and value Various on base line

ELECTROMAGNETIC

Instrument Crone Radem Crone CEM

Coil configuration Not applicable Vertical loop

Coil separation Not applicable Variable

Accuracy ± 1/2 ° ± 1/2 °

Method:  Fixed transmitter  Shoot back  In line  Parallel line

Frequency Balboa, Panama 24.0 KHz; Butler Maine 17.8 KHz; Annapolis Md. 21.4 KHz  
CEM 390 Hz, 1830 Hz. (specify V.L.F. station)

Parameters measured Dip angle of the resultant field - dip angle

GRAVITY

Instrument \_\_\_\_\_

Scale constant \_\_\_\_\_

Corrections made \_\_\_\_\_

Base station value and location \_\_\_\_\_

Elevation accuracy \_\_\_\_\_

Instrument \_\_\_\_\_

Method  Time Domain  Frequency Domain

Parameters - On time \_\_\_\_\_ Frequency \_\_\_\_\_

- Off time \_\_\_\_\_ Range \_\_\_\_\_

- Delay time \_\_\_\_\_

- Integration time \_\_\_\_\_

Power \_\_\_\_\_

Electrode array \_\_\_\_\_

Electrode spacing \_\_\_\_\_

Type of electrode \_\_\_\_\_

INDUCED POLARIZATION RESISTIVITY

THE TOWNSHIP  
OF 2.2665

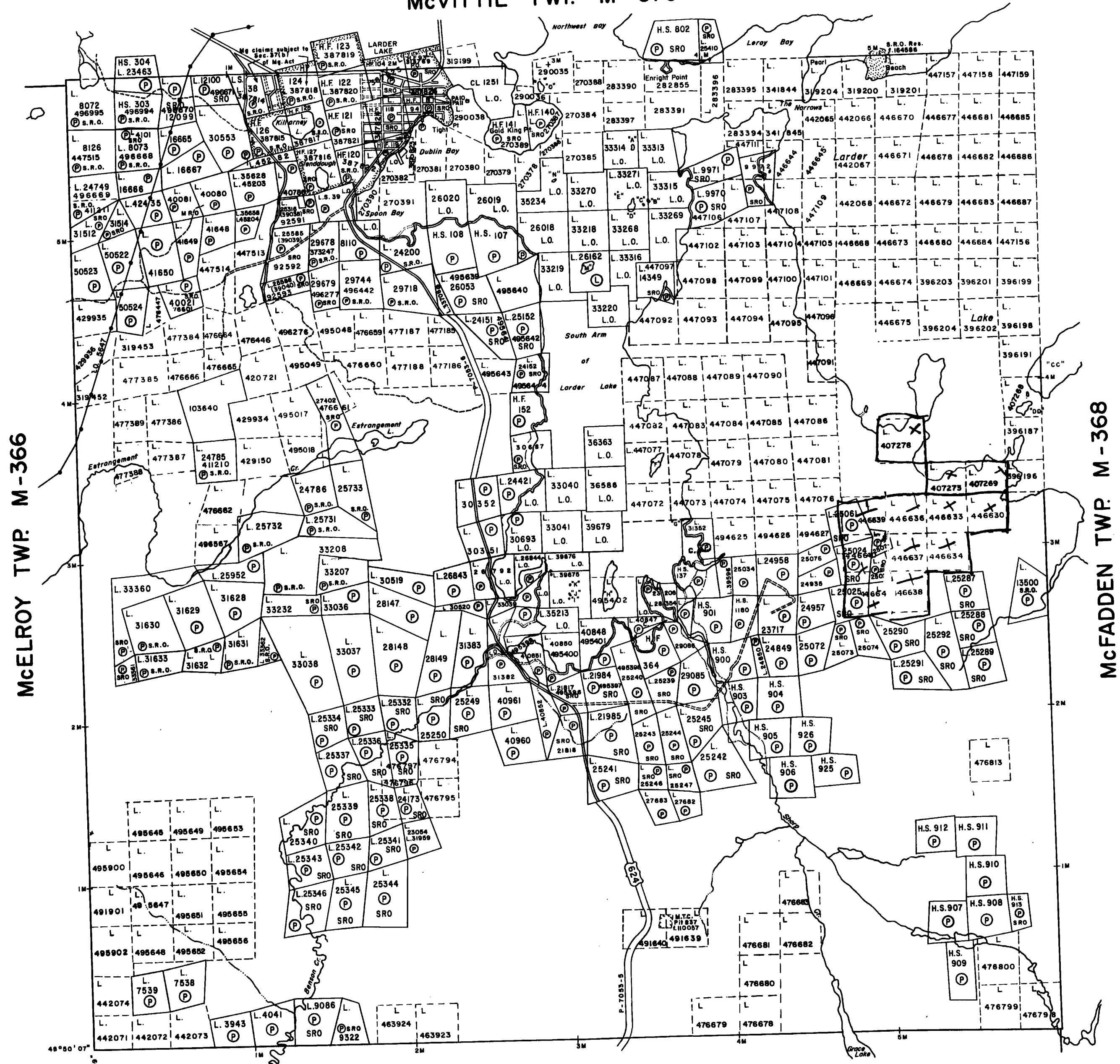
# HEARST

DISTRICT OF  
TIMISKAMING

LARDER LAKE  
MINING DIVISION

SCALE: 1-INCH - 40 CHAINS

## McVITTIE TWP. M-370



### LEGEND

- PATENTED LAND ● or P
- CROWN LAND SALE C.S.
- LEASES L
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS ————
- IMPROVED ROADS ————
- KING'S HIGHWAYS ————
- RAILWAYS ————
- POWER LINES ————
- MARSH OR MUSKEG ————
- MINES X
- CANCELLED C.
- PATENTED S.R.O. ●

### NOTES

400' Surface Rights reservation along the shores of all lakes and rivers.

Township of Hearst lies entirely within the CORPORATION of the TOWNSHIP of LARDER LAKE. File: 129282.

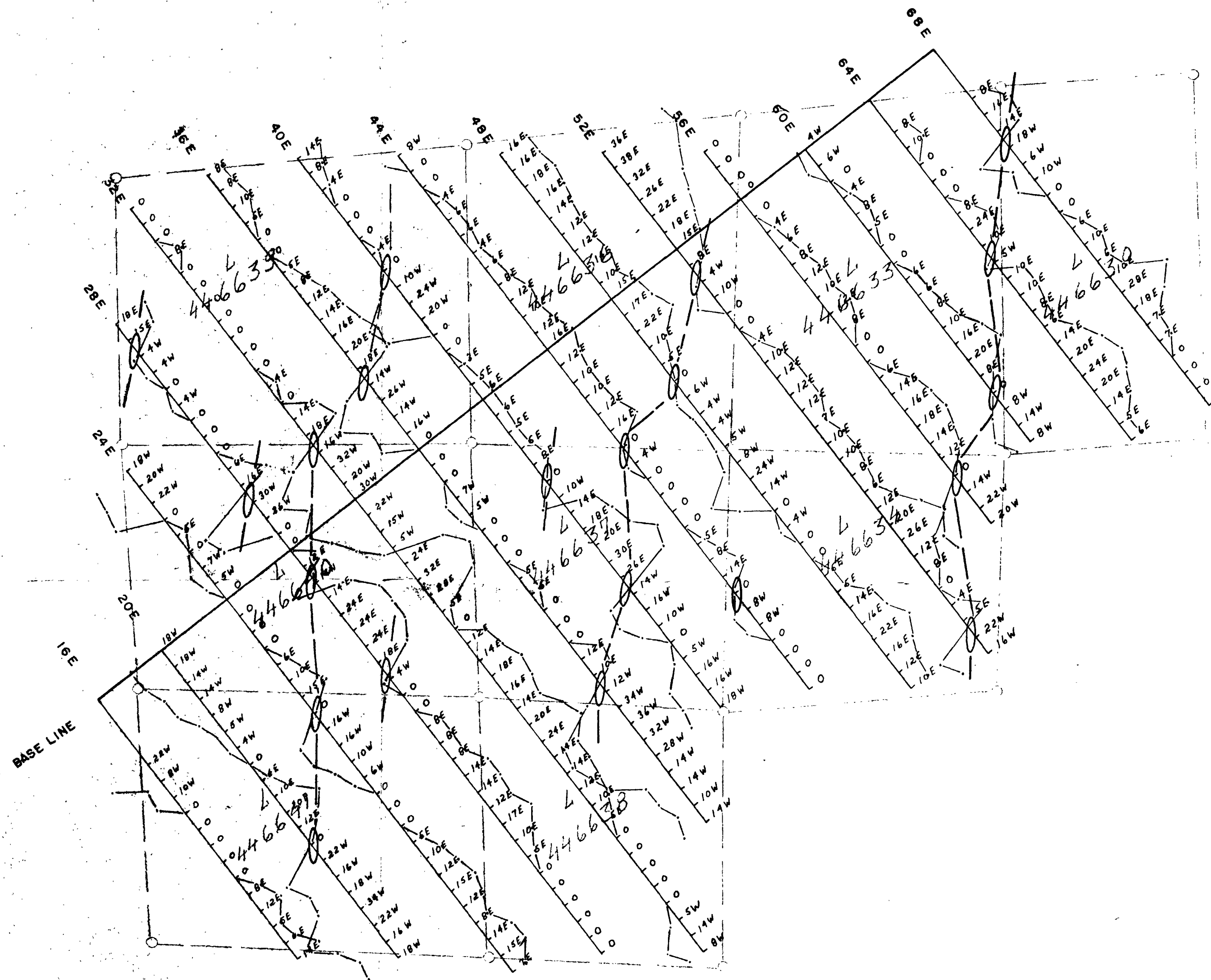
Staking of mining claims within the Town of Larder Lake shown thus subject to Sec. 37(b) of the Mining Act (R.S.O. 1970).

DATE OF ISSUE  
1.24.1978  
SURVEYS AND MAPPING  
BRANCH

PLAN NO. **M-354**  
ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

## SKEAD TWP. M-387





VLF-EM SURVEY  
 LARDER LAKE PROPERTY-HEARST TWP.  
 SCALE 1" = 400'  
 1" = 40°  
 Station Annapolis Md 21 4KHz  
 Inst - Crone Radem  
 Dip Angle of the Resultant Field in Degrees

